

ABSTRACT OF THE DISCLOSURE

An optical micro-electro-mechanical system (MEMS) switch is disclosed. In a preferred embodiment the optical MEMS switch is used as an $M \times N$ optical signal switching system. The optical MEMS switch comprises a plurality of optical waveguides formed on a cantilever beam platform for switching optical states wherein the state of the optical switch is changed by a system of drive and latch actuators. The optical MEMS device utilizes a latching mechanism in association with a thermal drive actuator for aligning the cantilever beam platform. In use the optical MEMS device may be integrated with other optical components to form planar light circuits (PLCs). When switches and PLCs are integrated together on a silicon chip, compact higher functionality devices, such as Reconfigurable Optical Add-Drop Multiplexers (ROADMs), may be fabricated.